Z8F64200100KIT

Z8 Encore!® 64K Series MCU Development Kit

User Manual

Preliminary

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ZiLOG Worldwide Headquarters • 532 Race Street • San Jose, CA 95126-3432
Telephone: 408.558.8500 • Fax: 408.558.8300 • www.ZiLOG.com

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ZiLOG Worldwide Headquarters
532 Race Street
San Jose, CA 95126-3432
Telephone: 408.558.8500
Fax: 408.558.8300
www.ZiLOG.com

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Safeguards

The following precautions must be observed when working with the devices described in this document.

Caution: Always use a grounding strap to prevent damage resulting from electrostatic discharge (ESD).

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Introduction

The Z8 Encore!® 64K Series MCU is part of the line of ZiLOG microcontroller products.

The Z8 Encore! MCU Development Kit (Z8F64200100KIT) allows users to become familiar with the hardware and software tools available with this product. This kit consists of the 64KB version of the Z8 Encore! Development board that supports and presents the features of the Z8 Encore! 64K Series of microcontrollers. The software development tool kit allows users to begin writing application software and contains all supporting documents.

This manual acquaints users with the Z8 Encore! 64K Series MCU Development Kit, and gives instructions on setting up and using the tools to start building designs and applications.

Kit Contents

The Z8 Encore!® 64K Series MCU Development Kit contains the following:

Hardware

- Z8 Encore!® Z8F642 Development board
- Smart cable for PC to Z8 Encore! Z8F642 Development board (DB9 to six-pin male)
- 5VDC power supply

Figure 1. Z8 Encore! 64K Series MCU Development Kit Contents

Software (on CD-ROM)

- ZDS II- Z8 Encore! IDE with ANSI C-Compiler
- Sample code
- Document browser
- Acrobat Reader install program

Documentation

- Quick Start Guide
- Registration card

- Z8 Encore!™ 64K Series MCU technical documentation (on CD-ROM)
  - Development Kit User Manual
  - ZDS II - IDE User Manual
  - eZ8 CPU User Manual
  - Product Specification
  - Product briefs
  - Application notes
  - Programmer's Reference Sheet

The sample code is installed with ZDS II and resides in the `<installation directory>\samples` in the user's disk drive.

The documentation can be installed by the user with the DemoShield interface or can be viewed on the CD-ROM using the DemoShield menus and a PDF reader. A copy of the Acrobat installer is provided on the CD-ROM and can be installed from the DemoShield install screen. After installing the documentation on the user's system Windows Explorer can be used to select any document to be viewed with your favorite PDF file viewer.

System/Software Requirements

IBM PC (or compatible computer) with the following minimum configurations:

Supported Host System Configuration

- Win98 Second Edition, WinNT 4.0 Service Pack 6, Win2000 Service Pack 3, WinXP Service Pack 1
- PentiumII/233MHz processor or higher up to Pentium IV, 2.8 GHz
- 96MB RAM or more
- 25MB hard disk space or more

- Super VGA video adapter
- CD-ROM
- One or more RS-232 communication ports

Installation

Follow the directions in the Z8 Encore!® Development Kits Quick Start Guide (QS0028) to for software installation and setup of the Z8 Encore! 64K Series MCU Development kit.

Z8 Encore! 64K Series MCU Development Board

Introduction

The Z8 Encore! 64K Series MCU development board is a development and prototyping board for the Z8 Encore! 64K series microcontrollers. The board provides customers with a tool to evaluate features of Z8 Encore! 64K series MCUs, and to start developing an application before building the hardware.

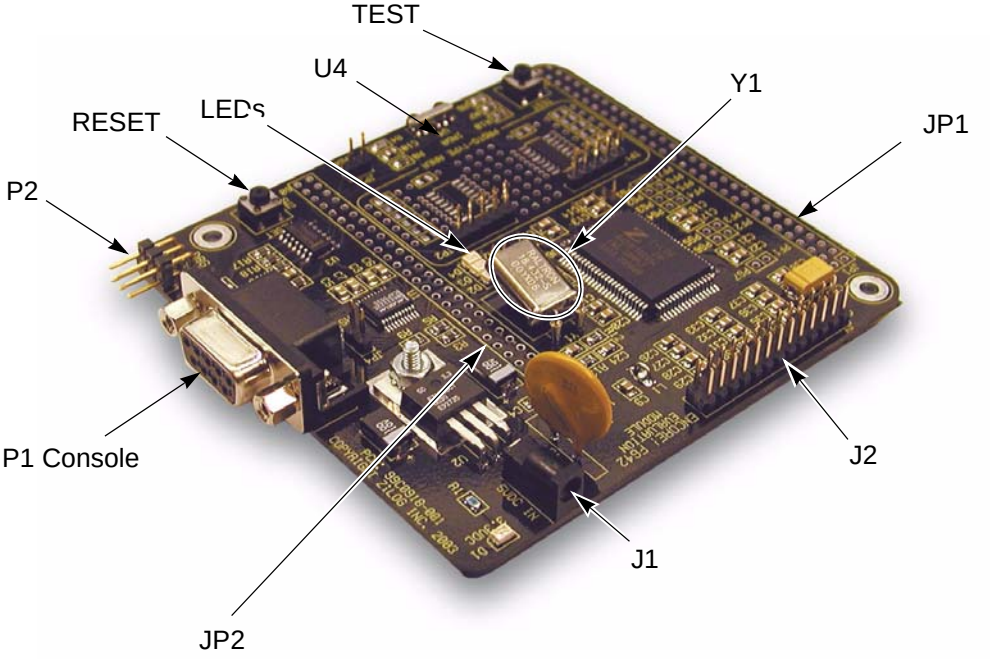


Figure 14. Z8 Encore!® 64K Series MCU Development Board

Features

- Z8 Encore!® MCU
- 3 LEDs
- RS-232 interface (P1)
- IrDA transceiver (U4)
- Two pushbuttons, RESET and TEST
- 5VDC power connector (J1)
- On-Chip Debugger interface (P2)
- Crystal Oscillator (Y1)
- Header for ADC input (J2)
- Prototyping area
- External interface connectors JP1 and JP2 (not populated)

MCU

The Z8 Encore!® Z8F642 MCU is member of a family of ZiLOG microcontroller products based upon the 8-bit eZ8 core CPU. The Flash in-circuit programming capability allows for faster development time and program changes in the field. The eZ8 core CPU is upward compatible with existing Z8® instructions. The rich peripheral set of the Z8 Encore! Z8F642 makes it suitable for a variety of applications including motor control, security systems, home appliances, personal electronic devices, and sensors.

The evaluation board contains circuitry to support and present all the features of the Z8 Encore! Z8F642. The main features of the Z8 Encore! Z8F642 are:

- eZ8 core CPU

- 64K of Flash memory with in-circuit programming capability
- 4K of register RAM
- Either eight or twelve channels, 10-bit analog-to-digital converter (ADC)
- Two Full-duplex UART
- I^2C interface (Master Mode only)
- Serial Peripheral Interface (SPI)
- Infrared Data Association (IrDA)-compliant infrared encoder/decoder
- Three or four 16-bit timers with capture, compare, and PWM capability
- Watch-Dog Timer (WDT) with internal RC oscillator
- Thirty one, forty six or sixty I/O pins
- Programmable priority interrupts
- On-Chip Debugger
- Voltage Brown-out Protection (VBO)
- Power-On Reset (POR)
- 2.7–3.6V operating voltage with 5V-tolerant inputs
- Operating temperature: 20° ± 10°C

For further information on the Z8 Encore!™ family of devices, consult the product specification, PS0199 (Flash) or PS0204 (ROM), available for download from www.zilog.com.

IrDA Transceiver with Endec

The Z8 Encore! Z8F642 contains a fully-functional, high-performance UART with Infrared Encoder/Decoder (Endec). The Infrared Endec is integrated with an on-chip UART to allow easy communication between

the Z8 Encore! Z8F642 and IrDA transceivers. Infrared communication provides secure, reliable, low-cost, point-to-point communication between PCs, PDAs, cell phones, printers and other infrared enabled devices.

Power and Communication Interfaces

Table 1 provides jumper information concerning the shunt status, functions and devices affected of selected jumpers.

Table 1. Jumpers JP3 and JP4

Jumper	Status	Device Affected	Status	Default
JP3	OUT*	IrDA interface	Enable	
JP3	IN	IrDA interface	Disable	X
JP4**	OUT*	RS-232	Enable	X
JP4	IN	RS-232	Disable	
Note: * These jumpers must not be OUT at the same time Note: ** If the module is plugged onto an eZ80 Development platform or eZ80 demonstration board the local RS-232 can be disabled by connecting header JP2 pin 50 to the corresponding GND on the mating connector				

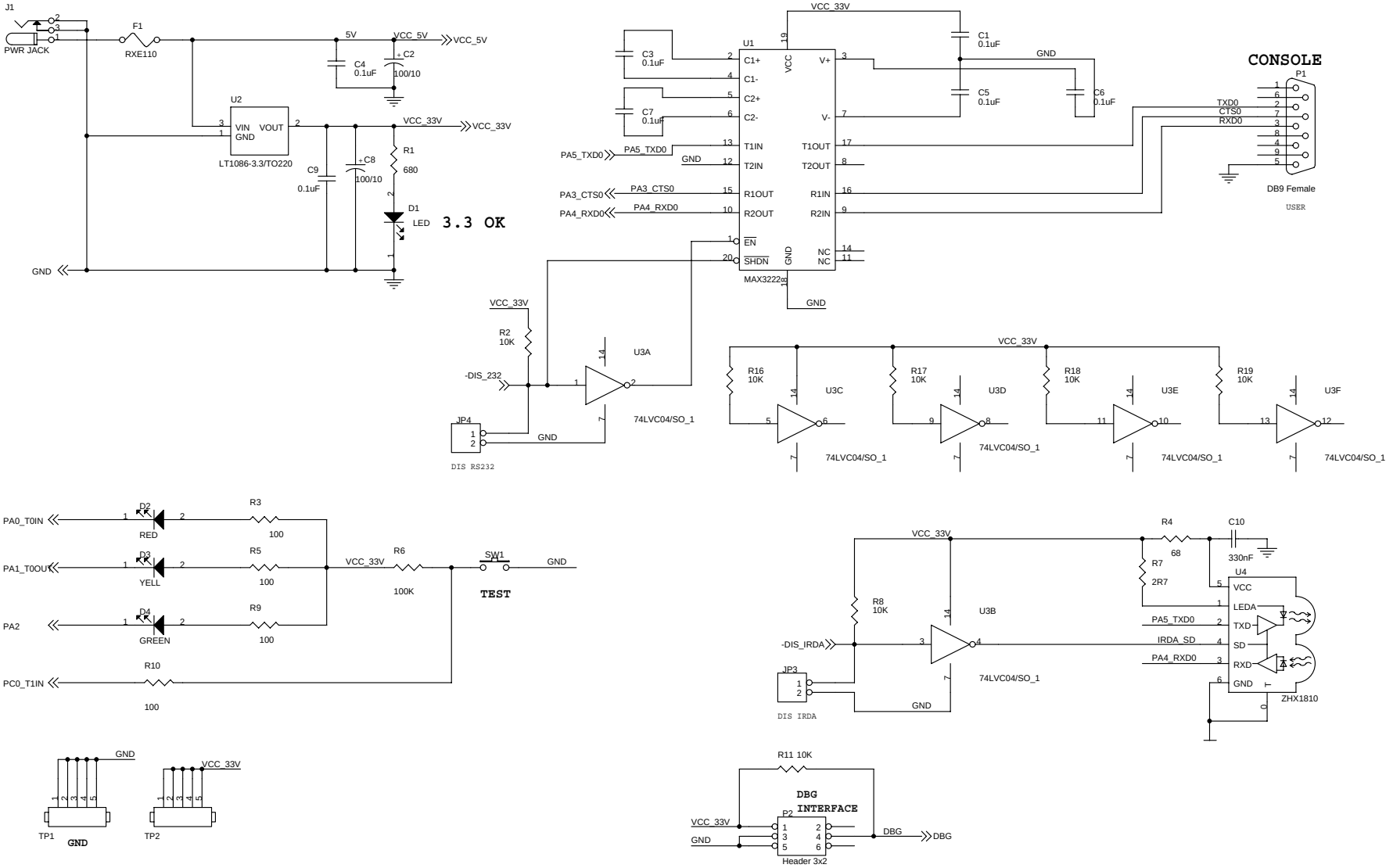
External Interface Connectors JP1 and JP2

The external interface connectors are not populated when the board is shipped. The user can populate them with 0.1" space headers of choice.

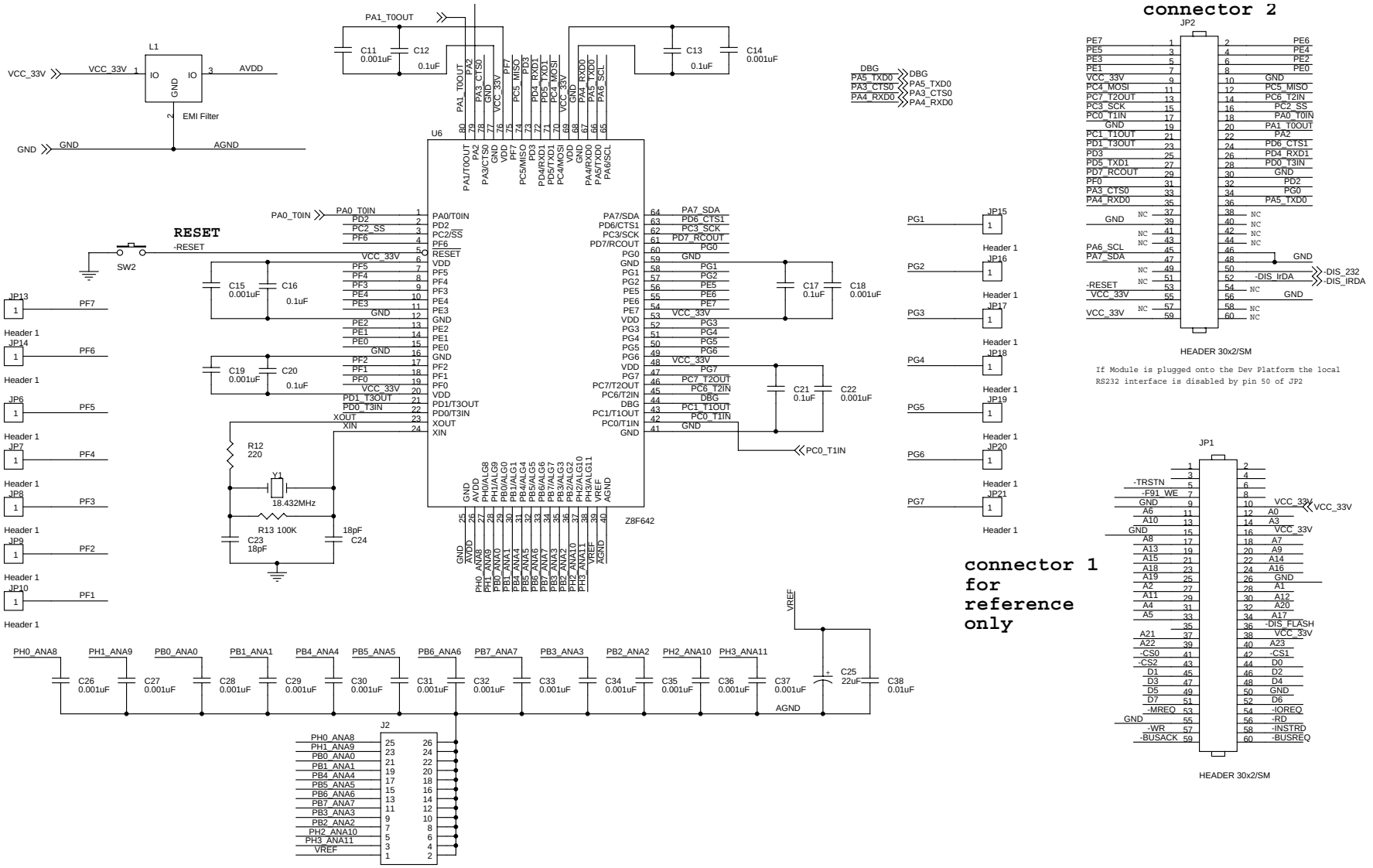
Note: Only Power and GND nets on connector JP1 are used on this module.

Schematics

This section includes schematics for the the Z8 Encore! 64K Series MCU Development Board.



Schematic, Z8 Encore!® 64K Series MCU Development Board, Page 1 of 2


connector 2
connector 1 for reference only
RESET
Z8F642
HEADER 30x2/SM
HEADER 30x2/SM
If Module is plugged onto the Dev Platform the local RS232 interface is disabled by pin 50 of JP2

Schematic, Z8 Encore!® 64K Series MCU Development Board Page 2 of 2